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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,229	01/08/2001	Motoaki Saito	005091.P002	6318

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EXAMINER	
TABATABAI, ABOLFAZL	
ART UNIT	**PAPER NUMBER**
2625	6

DATE MAILED: 11/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/757,229	SAITO ET AL.	
	Examiner	Art Unit	
	Abolfazl Tabatabai	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 January 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 2, 5, 6, 9, 10, 13 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Carrott et al (U S 6,396,940 B1).

Regarding claim 1, Carrott discloses an image display apparatus for displaying multi-slice images corresponding to cross-sections of a subject in multiple display areas on a single display screen, the apparatus comprising:

means for deforming (column 12, lines 20-28) a display format of each display area (column 8, lines 61-67 and column 9, lines 1-5); and,

means for changing the display format of one of the display areas to change a relationship between the images in the one display area with an image in a display area adjacent to the one display area (column 8, lines 55-67 and column 9, lines 1-5).

Regarding claim 2, Carrott discloses the image display apparatus further comprising means for overlapping adjacent display areas on the single display screen (column 2, lines 61-65).

Claim 5, is similarly analyzed as claim 1 above.

Claim 6, is similarly analyzed as claim 2 above.

Regarding claim 9, Carrott discloses a computer-readable medium having executable instructions for performing a method comprising:

deforming a display format of each of a plurality of display areas for displaying on a single screen (column 8, lines 61-67 and column 9, lines 1-5), each display area displaying a multi-slice image corresponding to a cross5 section of a subject (column 5, lines 41-58); and,

changing the display format of one of the display areas to change a relationship between the image in the one display area with an image in a display area adjacent to the one display area (column 8, lines 55-67 and column 9, lines 1-5).

Claim 10, is similarly analyzed as claim 2 above.

Regarding claim 13, Carrott discloses a computer system comprising:

a processor (fig.1 element 14);

a memory coupled to the processor through a bus (column 9, lines 58-65); and,

a display process executed from the memory to cause the processor to deform a

display format of each of a plurality of display areas and to change the display format of one of the display areas each display area, wherein the plurality of display areas are operable for displaying on a single display screen with each display area displaying a multi-slice image corresponding to a cross-section of a subject (column 5, lines 41-58).

Claim 14, is similarly analyzed as claim 2 above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 3, 4, 7, 8, 11, 12, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carrott et al (U S 6,396,940 B1) in view of Hossack et al (U S 6,511,426 B1).

Regarding claim 3, Carrott is silent about specific details regarding assigning a different opacity to each display area.

In the same field of endeavor, however, Hassack discloses a system for medical diagnostic ultrasound comprising the step of:

assigning a different opacity to each display area (column 23, lines 59-67).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the step of assigning a different opacity to each display area as taught by Hassack in the system of Carrott because Hassack provides a system for reducing speckle for three-dimensional images and also the ultrasound system used to generate a first image, a remote ultrasound system or a remote workstation may be used to regenerate the same image.

Regarding claim 4, Carrott is silent about specific details regarding image display apparatus further comprising:

means for assigning a different opacity to each display area; and

means for arranging each display area with a different opacity on a three-dimensional image reconstructed with previously acquired data.

In the same field of endeavor, however, Hassack discloses a system for medical diagnostic ultrasound comprising the step of:

means for assigning a different opacity to each display area (column 23, lines 59-67); and,

means for arranging each display area with a different opacity on a three-

dimensional image reconstructed with previously acquired data (column 23, lines 59-67 and column 24, lines 1-6).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the step of a different opacity on a three-dimensional image reconstructed as taught by Hassack in the system of Carrott because Hassack provides a system for reducing speckle for three-dimensional images and also the ultrasound system used to generate a first image, a remote ultrasound system or a remote workstation may be used to regenerate the same image.

Claim 7, is similarly analyzed as claim 3 above.

Claim 8, is similarly analyzed as claim 4 above.

Claim 11, is similarly analyzed as claim 3 above.

Claim 12, is similarly analyzed as claim 4 above.

Claim 15, is similarly analyzed as claim 3 above.

Claim 16, is similarly analyzed as claim 4 above.

Other prior art cited

7. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

U. S. Patent (5,954,650) to Saito et al is cited for medical image processing apparatus.

U.S. Patent (5,817,022) to Vesely is cited for system for displaying a 2-D

ultrasound image within a 3-D viewing environment.

U S. Patent (5,647,018) to Benjamin is cited for method and apparatus for generating images.

U S. Patent (4,489,729) to Sorenson et al is cited for ultrasound imaging system .

Contact Information

8. any inquiry concerning this communication or earlier communications from the Examiner should be directed to ABOLFAZL TABATABAI whose telephone number is (703) 306-5917.

The examiner can normally be reached on Monday through Thursday from 9:30 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Bhavesh Mehta M, can be reached at (703) 308-5246.

Any response to this action should be mailed to:

Assistant Commissioner for Patents
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for ***formal*** communications; please mark **"EXPEDITED PROCEDURE"**)

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA. Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 305-4750

Abolfazl Tabatabai
Patent Examiner
Group Art Unit 2625
November 13, 2003

Jayanti K. Patel
Primary Examiner